IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

GEOTAG INC.,	§	
	§	
v.	§	CASE NO. 2:10-CV-572-MHS-RSP
	§	
STARBUCKS CORP., et al.	§	
_____	§	
	§	
GEOTAG INC.,	§	
	§	
v.	§	CASE NO. 2:10-CV-574-MHS-RSP
	§	
THE WESTERN UNION CO., et al.	§	
_____	§	
	§	
GEOTAG INC.,	§	
	§	
v.	§	CASE NO. 2:13-CV-183-MHS-RSP
	§	
THE BOEING CO., et al.	§	
	§	

CLAIM CONSTRUCTION
MEMORANDUM AND ORDER

On September 17, 2013, the Court held a hearing to determine the proper construction of

the disputed claim terms in United States Patent No. 5,930,474. After considering the arguments

made by the parties at the hearing, in the parties' original claim construction briefing (Dkt. Nos.

501, 508, and 512),[1] and in the parties' supplemental claim construction briefing (Dkt. Nos. 597

and 600), the Court issues this Claim Construction Memorandum and Order.

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[1] Citations to documents (such as the parties' briefs and exhibits) in this Claim Construction
Memorandum and Order shall refer to the page numbers of the original documents rather than
the page numbers assigned by the Court's electronic docket. Also, citations to docket numbers
shall be to Civil Action No. 2:10-CV-572 unless otherwise indicated.

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BACKGROUND

Plaintiff brings suit alleging infringement of United States Patent No. 5,930,474 ("the '474 Patent"), titled "Internet Organizer for Accessing Geographically and Topically Diverse Information." The '474 Patent issued on July 27, 1999, and bears a filing date of January 31, 1996. The Abstract of the '474 Patent states:

> A software interface organizes information predicated upon the geographical area of the resources about which the information is desired. A user is presented with a "viewpoint" map which may comprise, for example, an actual visually displayed map of a selected geographical area, or text information which pertains to the resources associated with the selected geographical area. A geography database, a local content database and a yellow pages database are provided to allow the user to obtain information at different levels. The geography database allows the user to browse through different geographic areas of [*sic*] which are ordered hierarchically, while the local content database includes information about general goods and services available within a given geographic location and the yellow pages database includes information about specific goods and services in the geographic location. Thus, the user is provided with a means whereby information which is associated with particular geographic locations can be readily accessed.

The '474 Patent has previously been construed three times: *Geomas (Int'l) Ltd., et al. v. Idearc Media Services-West, Inc.*, No. 2:06-CV-475 (E.D. Tex. Nov. 20, 2008) (Everingham, J.), ECF No. 110 ("*Geomas*"), *GeoTag Inc. v. Frontier Commc'ns Corp., et al.*, No. 2:10-CV-265 (E.D. Tex. Feb. 25, 2013) (Gilstrap, J.), ECF No. 472 ("*Frontier*"), and *Microsoft Corp., et al. v. GeoTag Inc.*, No. 1:11-CV-175 (D. Del. May 3, 2013) (Andrews, J.), ECF No. 284 ("*Microsoft*").

At the time the parties filed their original claim construction briefing, the above-captioned cases (together with other cases) were consolidated with *Frontier* for purposes of claim construction.[2] *See* First Amended Scheduling and Discovery Order at 17 & 21-22,

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[2] Civil Action No. 2:13-CV-183 was created on February 27, 2013 by the severance of Defendant The Boeing Co. from Civil Action No. 2:10-CV-575, which had been consolidated

Frontier (E.D. Tex. August 31, 2012), ECF No. 305. Subsequently, *Frontier* and numerous

related cases *other* than the above-captioned cases[3] were transferred to a different district judge

prior to the February 12, 2013 claim construction hearing in *Frontier*. General Order No. 13-3 at

App'x C, *Frontier* (E.D. Tex. Jan. 14, 2013), ECF No. 374. The above-captioned cases were

then set for a later claim construction hearing. Defendants in the above-captioned cases filed an

unopposed motion for leave to submit supplemental claim construction briefing, which the Court

permitted with certain page limitations. (Dkt. No. 583; filed July 31, 2013; Dkt. No. 595, filed

August 21, 2013).

LEGAL PRINCIPLES

"It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention

to which the patentee is entitled the right to exclude.'" *Phillips v. AWH Corp.*, 415 F.3d 1303,

1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys.,*

Inc., 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To determine the meaning of the claims, courts start

by considering the intrinsic evidence. *See id.* at 1313; *C.R. Bard, Inc. v. U.S. Surgical Corp.*,

388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Group,*

Inc., 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims

themselves, the specification, and the prosecution history. *See Phillips*, 415 F.3d at 1314;

C.R. Bard, 388 F.3d at 861. Courts give claim terms their ordinary and accustomed meaning as

understood by one of ordinary skill in the art at the time of the invention in the context of the

with *Frontier*. *See* Order, *GeoTag Inc. v. The Boeing Co.*, No. 2:13-CV-183 (E.D. Tex. February
27, 2013), ECF No. 1.

[3] Civil Action No. 2:13-CV-183 was created (*supra* n.2) shortly after the *Frontier* claim
construction ruling was signed on February 25, 2013. *Frontier* was entered in such a manner
that it was not entered in Civil Action No. 2:13-CV-183. *See* Order of Recusal, *GeoTag Inc. v.
Royal Purple, Inc.*, No. 2:10-CV-575 (E.D. Tex. February 25, 2013), ECF No. 609, *vacated*,
Order, February 27, 2013, ECF No. 612.

entire patent. *Phillips*, 415 F.3d at 1312-13; *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003).

The claims themselves provide substantial guidance in determining the meaning of particular claim terms. *Phillips*, 415 F.3d at 1314. First, a term's context in the asserted claim can be very instructive. *Id.* Other asserted or unasserted claims can aid in determining the claim's meaning because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term's meaning. *Id.* For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314-15.

"[C]laims 'must be read in view of the specification, of which they are a part.'" *Id.* (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). "[T]he specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.'" *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). This is true because a patentee may define his own terms, give a claim term a different meaning than the term would otherwise possess, or disclaim or disavow the claim scope. *Phillips*, 415 F.3d at 1316. In these situations, the inventor's lexicography governs. *Id.* The specification may also resolve the meaning of ambiguous claim terms "where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone." *Teleflex*, 299 F.3d at 1325. But, "[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims." *Comark Commc'ns, Inc. v. Harris*

Corp., 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); *accord Phillips*, 415 F.3d at 1323.

The prosecution history is another tool to supply the proper context for claim construction because a patent applicant may also define a term in prosecuting the patent. *Home Diagnostics, Inc., v. Lifescan, Inc.*, 381 F.3d 1352, 1356 (Fed. Cir. 2004) ("As in the case of the specification, a patent applicant may define a term in prosecuting a patent."). "[T]he prosecution history (or file wrapper) limits the interpretation of claims so as to exclude any interpretation that may have been disclaimed or disavowed during prosecution in order to obtain claim allowance." *Standard Oil Co. v. Am. Cyanamid Co.*, 774 F.2d 448, 452 (Fed. Cir. 1985).

Although extrinsic evidence can be useful, it is "less significant than the intrinsic record in determining the legally operative meaning of claim language." *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard*, 388 F.3d at 862). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert's conclusory, unsupported assertions as to a term's definition are entirely unhelpful to a court. *Id.* Generally, extrinsic evidence is "less reliable than the patent and its prosecution history in determining how to read claim terms." *Id.*

THE PARTIES' STIPULATED TERMS

For several terms that the parties briefed as disputed terms, the parties have reached agreement that plain and ordinary meaning should apply or that no separate construction is necessary (apart from the construction of constituent terms). The Parties' agreements are evident

in the parties' Revised P.R. 4-5(d) Joint Claim Construction Chart (Dkt. No. 601, filed

September 16, 2013) ("JCCC") and are set forth separately in Appendix A to this Claim

Construction Memorandum and Order.

CONSTRUCTION OF DISPUTED TERMS

A. *Frontier* Terms

Before the Court are two categories of claim terms for construction: 1) terms argued by

the parties in their supplemental briefing and at the September 17, 2013 claim construction

hearing (addressed in section B, below); and 2) terms that were not addressed in either the

supplemental briefing or at the hearing, which were only argued in the parties original briefing.

(*Compare* Dkt. Nos. 597 & 600 *with* Dkt. Nos. 501, 508, 512 & 601). For the second category

of terms, Plaintiff and Defendants rested on their original claim construction briefing—the same

briefing that was before the *Frontier* court—and Plaintiff specifically adopted the constructions

and analysis set forth in *Frontier* to the extent that Plaintiff's original proposed constructions and

arguments were inconsistent with *Frontier*. (*See* Dkt. No. 597 at 1 n.3; Dkt. No. 600 at 1). As to

these terms, the Court has reviewed the parties' original briefing and the analysis set forth in

Frontier and finds no reason to depart from the constructions reached in *Frontier*. The Court

therefore hereby adopts those constructions, as set forth in the following chart, for the same

reasons set forth in *Frontier*:

"database" (Claims 1, 20, 26 & 31)	
Defendants' Proposal[4]	**Court's Construction**
"a data structure of ordered entries separate from the user's browser that is accessed by the search engine to search geographically and topically"	**"a collection of information, or of data, that is organized to facilitate retrieval of selected information or data"**

"entry" (Claims 1, 20 & 31)	
Defendants' Proposal	**Court's Construction**
"a listing contained in the database that includes multiple data records"	**"a listing that is contained in the database and that includes one or more fields"**

"entries" (Claims 1, 20 & 31)	
Defendants' Proposal	**Court's Construction**
"a listing contained in the database that includes multiple data records"	**"listings that are contained in the database and that each include one or more fields"**

"data record" (Claims 18, 24, 25, 36 & 38)	
Defendants' Proposal	**Court's Construction**
"one or more fields within an entry (e.g., phone number, address)"	**"a listing that is contained in the database and that includes one or more fields"**

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[4] Because Plaintiff has adopted the *Frontier* constructions, this chart shows only Defendants' proposed constructions.

"geographical search area" (Claims 1, 20 & 31)	
Defendants' Proposal	**Court's Construction**
"the particular geographical area within the database selected by the search engine whose entries are to be searched"	**"the particular selected geographical area within the database for which the associated data records in the database are to be searched"**

"organizing a database of on-line information into a plurality of geographical areas" (Claim 31)	
Defendants' Proposal	**Court's Construction**
"at the time the database is being organized, ordering entries of on-line information into geographic areas within the database"	**Plain meaning in the context of the Court's constructions of constituent terms** **Defendants' proposal of "at the time the database is being organized" is hereby expressly rejected.**

"search engine" (Claims 1, 20 & 31)	
Defendants' Proposal	**Court's Construction**
No construction required	**"device or application that receives search requests and fulfills the received requests through interaction with a database"**

"on-line information" (Claims 1 & 31)	
Defendants' Proposal	**Court's Construction**
"information that is remotely accessible over a network"	**"information that is accessible over a computer network"**

"organizer" (Claim 1)	
Defendants' Proposal	**Court's Construction**
"a network interface (comprising a database and a search engine) that organizes 'on-line information' into categorized listings to make finding information easier"	**"device or application configured to receive search requests, together with a database and a search engine in communication with the database"**

"topic" (Claims 1, 18, 20, 24, 31, 34, 36, 37 & 38)	
Defendants' Proposal	**Court's Construction**
"an independent, searchable category of related goods or services, as distinguished from geographic information and the entries or data records associated with that category"	**Plain meaning** **Defendants' argument that a "topic" cannot be a phone number or a street address is hereby expressly rejected.** *See Frontier* **at 61.**

"entries corresponding to each [one] of said hierarchy of geographical area[s] is further organized into topics" (Claims 1 & 20)	
Defendants' Proposal	**Court's Construction**
"after the database is geographically ordered, further ordering the database entries for each particular geographic area into topics that are associated with that particular geographic area (as distinguished from geographically differentiated listings for the same topic)"	**"entries associated with a geographical area in the hierarchy of geographical areas are further organized to permit selected data to be retrieved according to topics"** **Defendants' proposal of an order of steps is hereby expressly rejected.**

"organizing said entries corresponding to said plurality of geographical areas into one or more topics" (Claim 31)	
Defendants' Proposal	**Court's Construction**
"after the database is geographically ordered, further ordering the database entries for each particular geographic area into topics that are associated with that particular geographic area (as distinguished from geographically differentiated listings for the same topic)"	**"organizing said entries corresponding to one or more geographical areas to further permit selected data to be retrieved according to one or more topics"** **Defendants' proposal of an order of steps is hereby expressly rejected.**

Geomas, *Frontier*, and *Microsoft* addressed the remaining disputed terms—the terms that were argued in the supplemental briefing and at the hearing—in distinct groups. At the September 17, 2013 hearing, however, the parties' oral arguments demonstrated significant overlap among the remaining disputed terms. The Court, therefore, first addresses the two core disputed terms—"dynamically replicated" and "hierarchy of geographical areas"—as a single group and then separately addresses the related disputed terms, as set forth below.

B. "dynamically replicated" and "hierarchy of geographical areas"

"dynamically replicated" (Claims 1 & 20)	
Plaintiff's Proposed Construction (*Frontier* Construction)	**Defendants' Proposed Construction**
"automatically copied or inherited, within the database, at the time needed rather than at a time decided or established in advance"	"automatically inheriting, within the database, at the time of the search"

"hierarchy of geographical areas" (Claims 1, 4 & 20)	
Plaintiff's Proposed Construction (*Frontier* **Construction**)	**Defendants' Proposed Construction**
"an arrangement of related information or data, ordered from broader geographical categories to narrower geographical categories"	"related geographical areas, ordered such that there are parent geographic areas and child geographic areas"

JCCC at 2 & 4. Plaintiff proposes the constructions that the Court reached in *Frontier*. *See Frontier* at 26 & 29.

     (1) The Parties' Positions

         (a) "dynamically replicated"

Because the original claim construction briefing in the above-captioned cases is the same briefing that was before the Court in *Frontier*, the Court hereby incorporates by reference the *Frontier* summary of Defendants' arguments (Plaintiff has adopted the *Frontier* analysis, *see* Dkt. No. 600 at 1). *See Frontier* at 20-22. Of particular note, Defendants originally proposed construing "dynamically replicated" to mean "automatically *copying* within the database at the time of a search rather than at a time established in advance," and *Frontier* adopted the word "copying" as part of its construction. (Dkt. No. 508 at 22) (emphasis added); *Frontier* at 26.

In their supplemental brief, Defendants modified their proposal for "dynamically replicated" in two major ways: by changing "copying" to "inheriting" and by shortening "at the time of a search rather than at a time established in advance" to "at the time of the search." (*Compare* Dkt. No. 508 at 22 *with* Dkt. No. 597 at 4).

Plaintiff has responded by noting Defendants' change of position on "copying" and by arguing that *Frontier* rejected Defendants' "at the time of the search" proposal. (Dkt. No. 600 at 4).

At the September 17, 2013 hearing, Defendants stated that although they had originally proposed "copying," they now feel that the word "copying" creates confusion. Defendants highlighted prosecution history in which the examiner wrote "<u>Synonyms</u>: dynamic replication = automatic inheritance = parent-child = inheriting attributes." (Dkt. No. 508, Ex. G, December 9, 1998 Search Request Form). Defendants explained that whereas "inheriting" requires a vertical, "lineage" relationship, "copying" could be merely from one file to any other file. Defendants further noted that the '474 Patent does not use the word "copying."

As to their proposal of "at the time of the search," Defendants emphasized that Plaintiff's briefing in the *Geomas* case referred to dynamic replication as being performed "by the search engine at the time of a search." (*Id.*, Ex. S, June 6, 2008 Plaintiffs' Opening Claim Construction Brief at 25). Defendants also argued that the phrase "at the time needed" is overbroad because it might be read to refer to any type of "need," not necessarily a need arising in connection with a search.

Plaintiff responded that "inheriting" is similar to "copying," as Defendants originally argued and as the *Frontier* defendants had argued during the *Frontier* claim construction hearing. *See* February 12, 2013 Hr'g Tr. at 75:4-20, *Frontier* , ECF No. 461 (quoted in subsection (2)(b), below). Plaintiff concluded that the term "dynamically replicated" does not require the vertical, "lineage" relationship that Defendants suggested at the September 17, 2013 hearing.

As to Defendants' proposal of "at the time of the search," Plaintiff responded that there might be some delay between a user clicking a search button and a search of the database actually being performed. Plaintiff expressed similar concerns at the *Frontier* hearing. *See id.* at 53:11-54:5. Plaintiff also argued that although some of the claims recite a search, Claim 31 does

not. Nonetheless, Plaintiff acknowledged that dynamic replication occurs at the time of generating a response to a search request.

Defendants replied that all of the asserted claims, including Claim 31, require a search. Defendants also noted that in *Geomas*, both sides included the phrase "at the time needed" as part of their proposed constructions because they agreed that dynamic replication does *not* refer to information generated at the time of database creation. *See Geomas* at 22. Finally, Defendants argued that the doctrine of claim differentiation should not be applied to Claim 32, which recites "[t]he method of claim 31 wherein said geographical areas are hierarchically organized," because the specification does not disclose anything other than a hierarchy.

(b) "hierarchy of geographical areas"

Because the original claim construction briefing in the above-captioned cases is the same briefing that was before the Court in *Frontier*, the Court hereby incorporates by reference the *Frontier* summary of Defendants' arguments (Plaintiff has adopted the *Frontier* analysis, *see* Dkt. No. 600 at 1). *See Frontier* at 27.

Defendants originally proposed construing "hierarchy of geographical areas" to mean "related geographical areas, ordered such that broader geographic areas *encompass* narrower geographic areas." (Dkt. No. 508 at 32) (emphasis added). In their supplemental briefing, Defendants acknowledge that *Geomas*, *Frontier*, and *Microsoft* all rejected proposals of an "encompassing" limitation. (Dkt. No. 597 at 2); *Geomas* at 8-10; *Frontier* at 29; *Microsoft* at 5-6. Defendants nonetheless argue that the specification and the prosecution history are consistent with requiring a "parent-child relationship." (Dkt. No. 597 at 2-3). Defendants cite *Microsoft*, which construed a term including "hierarchy of geographical areas" so as to require "parent geographic areas and child geographic areas." (*Id.* at 1); *Microsoft* at 10.

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Plaintiff responds that *Geomas* rejected a proposal to require such a "parent-child" relationship, and Plaintiff submits that *Frontier* adopted the conclusions reached in *Geomas* on this disputed term. (Dkt. No. 600 at 2 (citing *Geomas* at 8 & *Frontier* at 29)). Plaintiff also argues that Defendants have failed to identify any disclaimer by the patentee during prosecution. (Dkt. No. 600 at 3). Finally, Plaintiff notes that whereas Claim 20 recites a "predetermine[d] hierarchy of geographical areas," no "predetermined" requirement appears in Claim 1. (*Id.* at 2-3).

At the September 17, 2013 hearing, Defendants argued that neither *Geomas* nor *Frontier* rejected requiring a parent-child relationship because *Geomas* rejected requiring a "tree-like" structure ("where parents can have multiple children, but each child can only have one parent," *Geomas* at 8-9) and *Frontier* rejected requiring that broader geographic areas "encompass" narrower geographic areas (*Frontier* at 26). Defendants also noted that they are not arguing for any finding of prosecution history disclaimer but rather are citing the examiner's statements as evidence of the understanding of a person of ordinary skill in the art, just as *Microsoft* did. *See Microsoft* at 9.

Plaintiff responded that if the Court includes the words "parent" and "child" in its constructions, the jury would likely read those words too narrowly, such as to mean that a "child" can have only one parent or perhaps no more than two parents. Plaintiff acknowledged that there would "most likely" be some overlap and that the term "hierarchy" indeed requires *some* relationship, but upon inquiry by the Court, Plaintiff could not articulate any such relationship that would not require overlap. Nonetheless, Plaintiff maintained that broader geographical areas need not encompass narrower geographical areas, even partially.

(2) Analysis

The present disputes can largely be traced back to the amendments that followed an

interview between the patentee and the examiner during prosecution of the '474 Patent. The

original application claims did not contain any dynamic replication terms and were rejected as

unpatentable over prior art. (Dkt. No. 508, Ex. D, February 10, 1998 Office Action at 3). In a

subsequent examiner interview, the patentee and the examiner agreed that "[t]he dynamic

replication of an entry in narrow geographical area would overcome the prior art of record." (*Id.*,

Ex. F, July 28, 1998 Interview Summary). The patentee then amended the claims by adding the

dynamic replication limitations. (*Id.*, Ex. H, August 7, 1998 Response to Office Acton).

(a) "within the database"

The parties agree that the Court's construction of "dynamically replicated" and related

terms should include "within the database." (Dkt. No. 597 at 4; Dkt. No. 600 at 4); *see Microsoft*

at 15 ("Claim 1 clearly states that an entry is 'dynamically replicated' *within the database* in

connection with a search.") (emphasis added).

(b) "copying"

On one hand, *Microsoft* expressly rejected a proposal to include "copying" in the

construction of "dynamically replicating":

> GeoTag does not point to any intrinsic evidence justifying the inclusion of the
> "copying" limitation. Further "copying" is a well-known term used in the art of
> computer science, and if the patentee had intended his invention to be understood
> as having this function he could have easily done so by using this word
> *somewhere* in the patent.

Microsoft at 14-15.

On the other hand, in the above-captioned cases, Defendants originally proposed that this

Court adopt the word "copying" *instead of* "inheriting," arguing as follows:

> Since the meanings are identical, and since "copying" is simpler for the fact finder to understand and accurately reflects the definition of "replicating," Defendants' construction uses "automatically copying." And although, as GeoTag notes, the words "automatically inherited" are used in the specification, this language actually describes the way that data is stored in the geography database and is unrelated to dynamic replication.

(Dkt. No. 508 at 26) (footnotes omitted); (*id.* at 26 n.95 ("In the context of the invention,

Defendants' construction of the larger dynamic replication phrases as discussed below, which

requires copying from a larger/broader geographic area into an *encompassed* smaller/narrower

geographic area, has the same meaning as inheriting.")). The *Frontier* defendants, relying upon

this same original claim construction briefing, presented similar arguments during the

February 12, 2013 claim construction hearing in *Frontier*:

> . . . Defendants have proposed that instead of using automatically copying or inheriting, that we just use automatically copying. And why we've done that is because in the context of these claims, automatically copying has exactly the same meaning as automatically inheriting, because replicating means producing a replica. That means producing a copy. And that's all the claims talk about, an entry in the database that is associated with a broader geographical area is dynamically replicated into another geographical area in the database. And that is the same as replicating that entry into the other area in the database, and that is exactly what copying means.
>
> So the Defendants felt that -- why use the inheritance which nobody really knows exactly what it means when copying means exactly the same thing as inheritance in this context?

See February 12, 2013 Hr'g Tr. at 75:4-20, *Frontier*, ECF No. 461.

Defendants have now reversed course, arguing that "[t]he addition of 'copying or' to this

part of the construction introduces confusion and is not supported by the intrinsic evidence."

(Dkt. No. 597 at 4). On balance, Defendants have not sufficiently justified why the Court should

change "copying"—a word that they themselves originally proposed the Court adopt and which

the Court in *Frontier* indeed adopted—to "inheriting."

> (c) "inheriting"

As to the significance of "inheriting," Defendants at the September 17, 2013 hearing urged that dynamic replication occurs through a vertical, "lineage" relationship, and as to the "hierarchy" terms, Defendants argued that a "parent-child relationship" is what enables dynamic replication to occur through a "lineage." Defendants also cited the examiner's Search Request Form (quoted in subsection (1)(a), above) as to both the dynamic replication terms and the hierarchy terms. (*See* Defs.' September 17, 2013 Hr'g Slides 6 & 25; *see also* Dkt. No. 597 at 2 n.10 & 4 n.20).

On balance, the parties' dispute regarding Defendants' proposed parent-child relationship is better addressed in the context of the "hierarchy" terms, below, as was done in *Microsoft*. *See Microsoft* at 6-10, *esp.* at 6-7 ("The 'dynamic replication' phrases are the second group of disputed terms and are not construed in this section, but that group's meaning has ramifications for the 'hierarchy' phrases' construction. . . . 'Automatic inheritance' requires that 'hierarchy' be construed according to the 'parent-child relationship.'").

(d) "at the time needed rather than at a time decided or established in advance"

Frontier noted that "as agreed upon in *Geomas* and as is evident from the above-quoted portions of the specification [('474 Patent at 2:59-62, 17:58-64, 19:29-63 & 25:59-26:8)], the significance of the constituent term 'dynamically' is that entries are replicated 'at the time the entry is needed, rather than at a time that is decided or established in advance.'" *Frontier* at 25 (quoting *Geomas* at 22-23).

Although incidental delays may occur between a user requesting a search, the search being performed, and the search results being provided to the user (*see, e.g.,* '474 Patent at 22:39-54), the phrase "at the time needed" refers to the time of generating a response to a search request. Plaintiff itself expressed a similar understanding during the *Frontier* hearing:

[B]riefly to address the at the time needed versus at the time of the search, when -- when you're dealing with computers, it's sometimes very difficult to decide what is the time of something actually occurring, it may occur over a series of steps, it may occur at slightly different times, so what GeoTag believes the proper construction should be is that it's replicated when it's needed, not at the time -- not the -- which may be considered at the time of the search, but it shouldn't be limited to a specific step where somebody says, okay, I hit the search, five milliseconds later the dynamically replicating occurred, and, therefore, it's not at the time of the search because it's a short time after.

What we're saying is that you're searching and the result is -- at the time you need the information, it's provided to you. And that should be the construction.

THE COURT: It's quickly after?

[Plaintiff's counsel]: Quickly after, yes.

February 12, 2013 Hr'g Tr. at 53:11-54:5, *Frontier*, ECF No. 461.

On balance, the construction of "dynamically replicated" should include the phrase "at

the time needed rather than at a time decided or established in advance," but the parties must

abide by their apparent mutual understanding that "at the time needed" refers to a need that arises

while generating a response to a search request.

Plaintiff has not agreed, however, that all of the claims require a search. In particular,

Plaintiff argued at the September 17, 2013 hearing that Claim 31 does not require a search.

Claim 31 recites:

31. A method for locating on line information comprising the steps of:
organizing a database of on-line information into a plurality of geographical areas, said geographical areas having a plurality of entries associated therewith;
organizing said entries corresponding to said plurality of geographical areas into one or [m]ore topics;
directing a search engine executing in a computer to select one or more of said geographical areas so as to select a geographical search area;
dynamically replicating an entry from [a] broader geographical area into said geographical search area; and
displaying said topics associated with sa[i]d geographical search area.

On balance, Claim 31 contemplates a search because Claim 31 recites "locating on line information" by "directing a search engine . . . to select a geographical search area," "dynamically replicating," and "displaying . . . topics." Thus, for Claim 31 as for the other claims, the parties must abide by their apparent mutual understanding that "at the time needed" refers to a need that arises while generating a response to a search request, as discussed above.

(e) "hierarchy of geographical areas"

Frontier considered a proposal to construe "hierarchy of geographical areas" to mean "related geographical areas, ordered such that broader geographic areas *encompass* narrower geographic areas." *Frontier* at 26 (emphasis added). *Frontier* rejected that proposal and noted the rejection of a similar proposal in *Geomas*:

> In *Geomas*, the parties disputed whether the "hierarchy" terms required "tree-like" structures wherein "parents can have multiple children, but each child can only have one parent." *Geomas* at 8-9. The specification discloses:
>
>> As used herein, a "parent" entry is an entry (e.g., geographic or topical) which encompasses one or more children entries within the geographic or topical hierarchy, and a "child" entry is an entry which is encompassed by a parent entry within the geographical or topical hierarchy.
>
> ('474 Patent at 12:28-32.) *Geomas* concluded that limiting the claims to this preferred embodiment would be improper, but the Court in *Geomas* nonetheless noted that there must be some relationship between entries. *Geomas* at 10.
>
> On balance, having considered the briefing and oral argument presented in the present case, the Court reaches the same conclusions reached in *Geomas* . . . .

Frontier at 29.

In *Microsoft*, Google Inc. proposed that broader areas "encompass" narrower areas. *Microsoft* at 3-4. Microsoft Corp. proposed "that there are parent geographic areas and child geographic areas." *Id.* at 4. *Microsoft* rejected any "encompassing" requirement but construed the term "a database of information organized into a hierarchy of geographical areas wherein

entries [corresponding] to each one of said [hierarchy of] geographical areas is further organized

into topics" to mean "a database of information organized into *interrelated geographic areas*

such that there are parent geographic areas and child geographic areas, wherein the records

associated with a geographic area are further organized into topics." *Id.* at 5-6 & 10 (emphasis

added).

Because Defendants are here proposing the parent-child relationship set forth by

Microsoft, in which *Microsoft* specifically found that a child need not be encompassed by a

parent, the parent-child relationship proposed here by Defendants is *not* an encompassing

relationship. *Id.* at 5-6.

As to what the parent-child relationship *is*, however, *Microsoft* explained the relationship

between "parent" and "child" only with reference to "automatic inheritance," disclosures in the

specification regarding "parent" entries, and the examiner's Search Request Form. *Id.* at 7-9

(quoting '474 Patent at 19:29-39 (quoted below); (Dkt. No. 508, Ex. G, December 9, 1998

Search Request Form ("<u>Synonyms</u>: dynamic replication = automatic inheritance = parent-child =

inheriting attributes")). The specification uses the terms "parent" and "child" as follows:

> Once these namekeys have been established, they should not be changed. This is because subentries contain a reference to these names as their *parent hierarchy* so that to change a namekey for one location would require changing the namekey for all locations contained in the hierarchy beneath the location which has its namekey changed.
>
> The data contained within the geographic database 210 also includes reference fields 1305 which include a reference city, reference region, reference state, province or territory, reference country, reference continent, and reference world values. These values are the *parentage name keys* related to the current entry, and provide the key to displaying related entries to the internet user, and are *automatically inherited* from the *parent entr*y. These reference values are used to retrace the path back through the geographic hierarchy when the user wishes to return to a related (e.g., *parent*) location display screen.
>
> * * *

>The data stored within the geographic database 210 further includes label fields 1315 which include text fields shown to the user as folder titles (i.e., listed areas under the selected geographic area) for each of the *parent geographic entries* related to the current entry. Text fields are included for cities, regions, states, provinces or territories, countries, or continents. For example, if the user selects the state of California as the current entry, then the names of the *parent geographic areas* related to the state of California (i.e., the United States of America, North America, and the World) will be taken from the label field 1315 and displayed in the HTML document. In addition, the *children entries* related to the state of California are then inserted beneath the "California" entry by the geographical search engine 315 based upon the value of the Dbview parameter, as will be discussed in greater detail below. The label field 1315 is *automatically inherited from the parent entry*, and the values within the label field 1315 should not be changed.

'474 Patent at 19:23-63 (emphasis added); *see id.* at 12:28-32 (reproduced above as quoted by *Frontier*).

These disclosures in the specification shed little light on the contours of a parent-child relationship, particularly because Defendants agree that their current proposals of "parent" and "child" do not limit a child to having only one parent. At the September 17, 2013 hearing, the Court questioned Defendants' counsel regarding the nature of the proposed "parent-child" relationship. In particular, the Court inquired what Defendants' proposal of "parent" and "child" means if not that a child can have only one parent.

Defendants responded that whereas any two geographic areas in a database might have some conceivable "relationship" with one another, the "parent-child" relationship required by the hierarchy terms is a specific link through which dynamic replication can occur. Yet, Defendants' proposal for "dynamically replicated" includes "inheriting," which Defendants define in terms of a parent-child relationship. (Dkt. No. 597 at 2 ("dynamic replication requires a parent-child relationship")); (*see id.* at 3 (citing *Microsoft* at 7 (discussing "[t]he necessity of the 'parent-child relationship' to 'automatic inheritance'"))).

Thus, Defendants rely upon their "inheriting" proposals for the dynamic replication terms to explain the parent-child relationship purportedly required by the hierarchy terms *and*, in turn, Defendants rely upon those same parent-child proposals to define "inheriting." In other words, by limiting their explanations to the phrases that appear in the examiner's Search Request Form, Defendants are attempting to define these various disputed concepts with reference to one another. (Dkt. No. 508, Ex. G, December 9, 1998 Search Request Form ("Synonyms: dynamic replication = automatic inheritance = parent-child = inheriting attributes")). Such circularity is disfavored and fails to adequately resolve the parties' disputes. *See ACTV, Inc. v. Walt Disney Co.*, 346 F.3d 1082, 1086, 1090 (Fed. Cir. 2003) (rejecting district court construction of the term "Internet *address*" as meaning "a particular host on the Internet, specified by a *uniform resource locator* that is unique to that host" because district court construed "*uniform resource locator*" to mean "the complete *address* of a site on the Internet specifying both a protocol type and a resource location") (emphasis added).

Defendants' overarching concern appears to be that the *Frontier* constructions could be read such that the areas in a "hierarchy" need not have any relationship with one another (aside from there being relatively larger and smaller areas so that areas can be "broader" and "narrower" than one another). Defendants' concern can be addressed without employing circularity and without infusing the constructions with the vague "parent-child relationship" for which Defendants have been unable to articulate any specific contours.

On balance, the claims require overlap between areas in a hierarchy. Although the *Frontier* constructions for the "hierarchy" terms do not expressly require overlap, *Frontier* reached its construction in the context of parties disputing whether a narrower geographic area must be completely encompassed by a broader geographic area or could instead be only partially

encompassed. *See Frontier* at 26, 27 & 29; *see also* Dkt. No. 461, 2/12/2013 Hr'g Tr. at 12:1-7, 12:24-13:10, 13:25-14:7, 17:4-21:18, 25:12-31:12, 32:5-33:19, 42:21-23 & 60:15-61:9. Thus, reading *Frontier* in the context of the parties' arguments in that case, requiring overlap is not inconsistent with the conclusions reached in *Frontier*.

At the September 17, 2013 hearing, Plaintiff acknowledged that some relationship must exist and stated that there would "most likely" be some overlap. Upon inquiry by the Court, Plaintiff was unable to articulate any relationship that does not involve overlap. A construction that requires overlap is therefore also fair to Plaintiff, which has had ample opportunity to express its position and arguments on the required "relationship" through the course of claim construction proceedings in *Geomas*, *Frontier*, *Microsoft*, and the above-captioned cases.

Finally, because an area that is "broader" when viewed with reference to a certain other area in the hierarchy might be "narrower" when viewed with reference to a different other area within the same hierarchy, referring to "overlap" rather than to "at least partially encompassing" will provide greater clarity.

The Court therefore construes "hierarchy of geographical areas" to require that each area in the hierarchy at least partially overlaps one or more other areas in the hierarchy. The Court also hereby expressly rejects Defendants' proposals of "parent" and "child" areas, as to the hierarchy terms as well as with regard to the dynamic replication terms. Further, the overlap requirement only attaches to the "hierarchy," which does not itself require that the claimed dynamic replication must occur between areas that overlap. Thus, to whatever extent Defendants are arguing for requiring overlap between the "broader" area and the "narrower" area in Claim 1, for example, Defendants' argument is hereby expressly rejected.

> (f) "predetermined"

Plaintiff has noted in its supplemental brief and at the September 17, 2013 hearing that

whereas Claim 20 recites a "predetermine[d] hierarchy of geographical areas," Claim 1 does not

recite "predetermined." (Dkt. No. 600 at 3). Plaintiff argues that "[t]he use in claim 20 of the

term 'predetermined' before 'hierarchy of geographical areas' suggests that the term 'hierarchy'

itself is not limited to a particular predetermined structure such as a parent-child relationship."

(*Id.*) Thus, although the Court has rejected Defendants' proposals of "parent" and "child,"

Plaintiff has raised an additional dispute by asserting that the "broader geographical area,"

"narrower geographical area," and the "geographic search area" recited in Claim 1 need not exist

in the database before the search (that is, before the "organizer" receives a "search request").

The Court has a duty to resolve that dispute. *O2 Micro Int'l Ltd. v. Beyond Innovation Tech.*

Co., 521 F.3d 1351, 1362-63 (Fed. Cir. 2008).

Claim 1 recites (emphasis added):

1. A system which associates on-line information with geographic areas, said
system comprising:
        a computer network wherein a plurality of computers have access to said
computer network; and
        an organizer executing in said computer network, wherein *said organizer*
is configured to receive search requests from any one of said plurality of
computers, said organizer comprising:
                a database of information organized into a hierarchy of
        geographical areas wherein entries corresponding to each one of said
        hierarchy of geographical areas is further organized into topics; and
                a search engine in communication with said database, said search
        engine configured to search geographically and topically, said *search*
        engine further configured to [s]elect one of said hierarchy of geographical
        areas prior to selection of a topic *so as to provide a geographical search*
        area wherein *within said hierarchy of geographical areas at least one of*
        said entries associated with a b[roa]der geographical area is dynamically
        replicated into at least o[n]e narrower geographical area, said search
        engine further configure[d] to search said topics within said selected
        geographical search area.

Claim 1 recites the "narrower geographical area" and the "broader geographical area" as being "within said hierarchy of geographical areas," the antecedent basis for which is "a database of information organized into a hierarchy of geographical areas." *Frontier* therefore concluded that dynamic replication must occur "within the database," which is a phrase that Plaintiff and Defendants now agree should be included in the construction of the dynamic replication terms, as discussed in subsection (2)(a), above. *Frontier* at 25. Further, the search engine is "configured to select one of *said* hierarchy of geographical areas . . . so as to *provide a geographical search area*" (emphasis added). Finally, because Claim 1 recites the "hierarchy of geographical areas" as part of the "organizer" that is "configured to received search requests," the "hierarchy of geographical areas" must exist before the search request is received. *Cf. Altiris Inc. v. Symantec Corp.*, 318 F.3d 1363, 1369-70 (Fed. Cir. 2003) ("[W]e look to the claim language to determine if, as a matter of logic or grammar, they must be performed in the order written.").

The plain language of Claim 1 thus demonstrates that the "narrower geographical area," the "broader geographical area," and the "geographical search area" are selected from among areas (within "a hierarchy of geographical areas") that exist in the database before the search request is received. The Court hereby expressly rejects any argument to the contrary.

(3) Constructions

Based on the analysis set forth in subsections (2)(a) through (2)(f), above, the Court hereby construes "dynamically replicated" and "hierarchy of geographical areas" as set forth in the following chart:

Term	Construction
"dynamically replicated" (Claims 1 & 20)	**"automatically copied or inherited, within the database, at the time needed rather than at a time decided or established in advance"**
"hierarchy of geographical areas" (Claims 1, 4 & 20)	**"an arrangement of related information or data, ordered from broader geographical areas to narrower geographical areas, wherein each area at least partially overlaps one or more of the other areas"**

As stated in subsection (2)(d), above, the parties must abide by their apparent mutual understanding that "at the time needed" refers to a need that arises while generating a response to a search request.

C. Related Terms

Having resolved the parties' disputes regarding "dynamically replicated" and "hierarchy of geographical areas" in section B, above, the Court hereby construes the related disputed terms accordingly, as set forth in the following chart:

"replicating" (Claim 31)		
Plaintiff's Proposal[5]	**Defendants' Proposal**	**Court's Construction**
"copying or inheriting"	Term does not need to be separately construed in view of Defendants' proposed constructions	**"copying or inheriting"**

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[5] As noted in section A, above, Plaintiff' has adopted the constructions reached by the *Frontier* court.

"replicated" (Claims 1 & 20)		
Plaintiff's Proposal	**Defendants' Proposal**	**Court's Construction**
"copied or inherited"	Term does not need to be separately construed in view of Defendants' proposed constructions	**"copied or inherited"**

"dynamically replicating" (Claim 31)		
Plaintiff's Proposal	**Defendants' Proposal**	**Court's Construction**
"automatically copying or inheriting, within the database, at the time needed rather than at a time decided or established in advance"	"automatically inheriting, within the database, at the time of the search"	**"automatically copying or inheriting, within the database, at the time needed rather than at a time decided or established in advance"**

"hierarchy" (Claims 1, 4, 5 & 20)		
Plaintiff's Proposal	**Defendants' Proposal**	**Court's Construction**
"an arrangement of related information or data, ordered from broader general categories to narrower specific ones"	Term does not need to be separately construed in view of Defendants' proposed constructions	**No construction is necessary apart from the Court's separate construction of "hierarchy of geographical areas" in section B, above.**

"wherein said geographical areas are hierarchically organized" (Claim 32)		
Plaintiff's Proposal	**Defendants' Proposal**	**Court's Construction**
"wherein said geographical areas are ordered from broader geographical categories to narrower geographical categories"	"a database of information organized into interrelated geographic areas such that there are parent geographic areas and child geographic areas"	**"wherein said geographical areas are ordered from broader geographical areas to narrower geographical areas, and wherein each area at least partially overlaps one or more of the other areas"**

"a database of information organized into a hierarchy of geographical areas" (Claim 1)

Plaintiff's Proposal	Defendants' Proposal	Court's Construction
No construction is necessary apart from the Court's separate construction of constituent terms.	"a database of information organized into interrelated geographic areas such that there are parent geographic areas and child geographic areas"	**No construction is necessary apart from the Court's separate construction of constituent terms.**

"said database of information organized into a predetermine[d] hierarchy of geographical areas" (Claim 20)

Plaintiff's Proposal	Defendants' Proposal	Court's Construction
No construction is necessary apart from the Court's separate construction of constituent terms except that "predetermined" should be construed to mean "decided or established in advance."	"a database of information organized into interrelated geographic areas such that there are parent geographic areas and child geographic areas"	**No construction is necessary apart from the Court's separate construction of constituent terms except that "predetermined" is hereby construed to mean "decided or established in advance."**

"wherein within said hierarchy of geographic areas at least one of said entries associated with a b[roa]der geographical area is dynamically replicated into at least o[n]e narrower geographical area" (Claim 1)

Plaintiff's Proposal	Defendants' Proposal	Court's Construction
No construction is necessary apart from the separate construction of constituent terms.	"automatically inheriting at least one entry associated with a parent geographical area within the database into at least one of the child geographical areas within the database at the time of a search"	**No construction is necessary apart from the Court's separate construction of constituent terms.** **Defendants' proposed construction is hereby expressly rejected.**

"wherein at least one of said entries in said geographical area of relatively larger expanse is dynamically replicated into at least one of said geographical areas of smaller expanse" (Claim 20)		
Plaintiff's Proposal	**Defendants' Proposal**	**Court's Construction**
No construction is necessary apart from the separate construction of constituent terms.	"automatically inheriting at least one entry associated with a parent geographical area within the database into at least one of the child geographical areas within the database at the time of a search"	**No construction is necessary apart from the Court's separate construction of constituent terms.** **Defendants' proposed construction is hereby expressly rejected.**
"dynamically replicating an entry from broader geographical area into said geographical search area" (Claim 31)		
Plaintiff's Proposal	**Defendants' Proposal**	**Court's Construction**
No construction is necessary apart from the Court's separate construction of constituent terms. Defendants' proposed construction should be expressly rejected.	"automatically inheriting an entry associated with a parent geographical area within the database into the child geographical search area within the database at the time of a search"	**No construction is necessary apart from the Court's separate construction of constituent terms.** **Defendants' proposed construction is hereby expressly rejected.[6]**

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[6] The Court does not include any overlap requirement in the construction of this disputed term because Claim 31 does not recite a "hierarchy." Defendants argued at the September 17, 2013 hearing that the specification does not disclose anything other than a hierarchy and therefore the doctrine of claim differentiation cannot be applied to Claim 32, which recites "[t]he method of claim 31 wherein said geographical areas are hierarchically organized." Defendants thus appear to argue that if Claim 31 is not construed to require a hierarchy, then Claim 31 would be invalid because of lack of support in the specification. Such reliance on a validity analysis during claim construction is disfavored. *Phillips*, 415 F.3d at 1327 ("While we have acknowledged the maxim that claims should be construed to preserve their validity, we have not applied that principle broadly, and we have certainly not endorsed a regime in which validity analysis is a regular component of claim construction."). On balance, Defendants have not adequately justified importing a "hierarchy" requirement into Claim 31.

JCCC at 2, 4, 5, 8, 11, 15 & 16-17.

Finally, indefiniteness arguments were raised while the above-captioned cases were still consolidated with the *Frontier* case. *See Frontier*, ECF Nos. 401 (Defendants' letter brief) & 404 (Plaintiff's letter brief); *see also Frontier* at 34-36 & 35 n.4 (explaining the substance and circumstances of the letter briefing on indefiniteness). Those arguments are noted in the parties' September 16, 2013 Revised P.R. 4-5(d) Joint Claim Construction Chart, but the parties did not address indefiniteness in their supplemental briefing or during the September 17, 2013 hearing. JCCC at 5 n.1 & 11; (*see* Dkt. Nos. 597 & 600). Having reviewed Defendants' indefiniteness arguments, the Court finds no reason to depart from the findings in *Frontier*. The Court therefore hereby expressly rejects Defendants' indefiniteness arguments for the reasons set forth in *Frontier*. *See Frontier* at 38-40.

CONCLUSION

The Court adopts the constructions set forth in this opinion for the disputed terms of the patent-in-suit. The parties are ordered that they may not refer, directly or indirectly, to each other's claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from mentioning any portion of this opinion, other than the actual definitions adopted by the Court, in the presence of the jury. Any reference to claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.

SIGNED this 7th day of November, 2013.

_____
ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE

APPENDIX A

Term	Parties' Agreement
"said search engine further configured to select one of said hierarchy of geographical areas prior to selection of a topic so as to provide a geographical search area" (Claim 1)	No separate construction necessary
"said search engine configured to select at least one geographical area in said hierarchy of geographical areas so as to define a geographical search area" (Claim 20)	No separate construction necessary
"directing a search engine executing in a computer to select one or more of said geographical areas so as to select a geographical search area" (Claim 31)	No separate construction necessary
"narrower geographical area" (Claim 1)	Plain and ordinary meaning
"broader geographical area" (Claims 1 & 31)	Plain and ordinary meaning
"geographical area of relatively smaller expanse" (Claim 20)	Plain and ordinary meaning
"geographical area of relatively larger expanse" (Claim 20)	Plain and ordinary meaning